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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/519,704	12/05/2005	Steen Hojgaard Christensen	04-501 (29776-0005)	7276

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EXAMINER

BEKKER, KELLY JO

ART UNIT	PAPER NUMBER
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1781

MAIL DATE	DELIVERY MODE
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09/03/2010

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/519,704	Applicant(s) CHRISTENSEN ET AL.	
	Examiner KELLY BEKKER	Art Unit 1781	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 June 2010.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 12-26 and 28-36 is/are pending in the application.
- 4a) Of the above claim(s) 24-26 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 12-23 and 28-36 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Amendments made June 21, 2010 have been entered.

Claims 12-26 and 28-36 are pending.

Claims 24-26 have been withdrawn.

Claim Rejections - 35 USC § 112 2nd Paragraph

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

The 112 second paragraph rejection of claims 12-23 and 27-36 as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention, specifically for omitting an essential method step of a second desertification, has been withdrawn in light of applicants arguments, remarks pages 6-7, made June 21, 2010. Specifically applicant argues that an additional step of desertification prior to amidation is not necessary to produce the instantly claimed final product as the step of amidation inherently provides additional desertification. It is noted that although in the disclosure for forming the instantly claimed product, an additional desertification step prior to amidation is taught (specification page 9 lines 6-24, page 11 lines 24-28, page 13 line 4 through page 14 line 19, and Examples 1-2), the disclosure also shows examples 3 and 4 which produce the instantly claimed product without an additional desertification step prior to amidation.

Claim Rejections - 35 USC § 103

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 12-23 and 28-36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Marr et al (WO 99/37685) in view of Larsen et al (WO 98/58968). The references and rejection are incorporated herein and as cited in the office action mailed February 19, 2010. Specifically regarding the amendments to claims 12 and 28, that the deesterified pectin is characterized by having a ratio, R, of molecular weight of the starting pectin material to the molecular weight of the deesterified pectin of up to 1.15, as Marr teaches of desertification of the pectin with an enzyme which is a

Art Unit: 1781

biocatalyst (claim 7) which is the same method as instantly claimed, one of ordinary skill in the art would expect that the pectin produced by the substep of Marr have the same characteristics, including the same molecular weight ratio of pectin starting material to pectin after desertification, as instantly claimed. Furthermore, as Marr teaches that the pectin is treated by multiple de-esterification steps, including de-esterification with enzymes which are bio-catalysts and as Marr teaches of a final product that has the same de-esterification level as the instantly claimed product, such as recited in claims 16-17 and 31-33, it appears that the references teach of the product as instantly claimed; As the final product has the same degree of esterification one of ordinary skill in the art would not expect that the degree of esterification in between steps of de-esterification to impart a patentable distinction to the final product claimed, absent any clear and convincing arguments and/or evidence to the contrary.

Response to Arguments

Applicant's arguments in the remarks filed June 21, 2010 and declaration filed January 22, 2010 have been fully considered but they are not persuasive.

Applicant argues in the remarks and declaration that there is no motivation to combine the teachings of Marr and Larson, that the references teach away from the proposed combination, that hindsight reconstruction was used because Larson teaches of a process with pectin fractions and Marr teaches of a bulk pectin product and one of ordinary skill in the art would only use either the teachings of Marr or the teachings of Larson, and that even if combinable the final product would be a pectin fraction.

Applicant's argument is not convincing as:

- It must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

Art Unit: 1781

- The examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992).
 - In the instant case, only knowledge which was within the level of ordinary skill at the time the claimed invention was made was taken into account wherein the combining or modifying the teachings of the prior art to produce the claimed invention was by some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art.
 - As previously stated, Marr teaches that the pectin has a de-esterification level of less than 20%, which encompasses the range of less than 30%, 10-20%, and 12-18% (page 2 lines 16-26); Larsen teaches that the degree of amidization of pectin with improved functional characteristics is 0-25% (page 8 lines 1-14 and page 18 line 27 through page 19 line 16); thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to amidate the de-esterified pectin as taught by Marr to 0-25% in order to form a product with improved functional characteristics as taught by Larsen.
 - Applicant's argument that the modification would not have been obvious because Larson teaches of a process with pectin fractions and Marr teaches of a bulk pectin product, is not convincing as the bulk pectin as taught by Marr includes pectin fractions and thus the process of Larson which enhances the pectin fractions would also enhance the pectin fractions in the bulk pectin, thus enhancing the bulk pectin as taught by Marr.

Art Unit: 1781

- Applicant's argument that one of ordinary skill in the art would have been motivated to only chose the method of Marr or the method of Larson is not convincing as both teach of treating pectin components to produce improved products, and thus the combination of methods would have been obvious in order to produce a more improved final product; there is no evidence to support or suggest that only one treatment or the other should be preformed; and
- The test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); In the instant case, the pectin of Marr need not be fractionated when considering amidation, such as taught by Larson, as a bulk pectin is suitable for amidation and the step of amidation does not require only pectin fractions; and as stated above, as the bulk pectin as taught by Marr includes pectin fractions, the amidation process of Larson which enhances the pectin fractions would also enhance the pectin fractions in the bulk pectin as taught by Marr.

In response to applicant's argument in the remarks and declaration that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., a high molecular weight pectin and pectin with a high intrinsic viscosity) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

- Specifically regarding the high molecular weight pectin, it is noted that a sub-step in the product by process claims recites the production of a specific molecular weight ratio of the starting pectin material to the

Art Unit: 1781

enzymatically deesterified pectin material of less than 1.15, however, there is nothing claimed that the final product has a specific high molecular weight, nor is there any limitation preventing the increase of the molecular weight ratio of the pectin during additional processing. As Marr teaches of desertification of the pectin with an enzyme which is a biocatalyst (claim 7) which is the same method as instantly claimed, one of ordinary skill in the art would expect that the pectin produced by the substep of Marr have the same characteristics, including the same molecular weight ratio of pectin starting material to pectin after desertification with enzymatic material, as instantly claimed. Furthermore, as Marr teaches that the pectin is treated by multiple de-esterification steps, including de-esterification with enzymes which are bio-catalysts and as Marr teaches of a final product that has the same de-esterification level as the instantly claimed product, such as recited in claims 16-17 and 31-33, it appears that the references teach of the product as instantly claimed; As the final product has the same degree of esterification one of ordinary skill in the art would not expect that the degree of esterification in between steps of de-esterification to impart a patentable distinction to the final product claimed, absent any clear and convincing arguments and/or evidence to the contrary.

- Specifically regarding the pectin as having a high intrinsic viscosity, the claims do not recite a pectin with a specific, i.e. a high intrinsic viscosity, but rather claim the ratio of intrinsic viscosity of the pectin before treatment with ammonia to the pectin treated with ammonia (i.e. the amidated pectin). As the references of record teach the pectin is treated with ammonia for amidation one of ordinary skill in the art would expect that the pectin possesses substantially the same ratio as instantly claimed; As the references of record teach that the product is treated in the same manner, i.e. amidation by ammonia to produce an amidated pectin, one of ordinary skill in the art would expect the same results in the final product, i.e. an

intrinsic viscosity ratio of pre-amidated pectin to amidated pectin, that is the same as the instantly claimed invention.

Note: If applicant believes the molecular weight of the final pectin product is critical to the invention, as argued, applicant is encouraged to reflect a value for the molecular weight in the instantly claimed invention.

Applicant argues that the references of record do not teach the ratio of the intrinsic viscosity of the pectin, minimizing the loss of molecular weight during desertification of the pectin, minimizing loss of intrinsic viscosity during amidation, and the Mark-Houwink factor of the pectin as instantly claimed. Applicant has chosen to use an equation with parameters that cannot be measured by the Office, for the purpose of prior art comparison, because the office is not equipped to manufacture prior art products and compare them for patentability. Therefore, applicant is reminded that where the claimed and prior art products are identical or substantially identical in structure or composition, or are produced by identical or substantially identical processes, a prima facie case of either anticipation or obviousness has been established. In re Best, 562 F.2d 1252, 1255, 195 USPQ 430, 433 (CCPA 1977). "When the PTO shows a sound basis for believing that the products of the applicant and the prior art are the same, the applicant has the burden of showing that they are not." In re Spada, 911 F.2d 705, 709, 15 USPQ2d 1655, 1658 (Fed. Cir. 1990). In the instant case, as the pectin as taught by the references of record is produced in substantially the same method as the instantly claimed invention, including enzymatic desertification (as taught by Marr, claims 1 and 7) and amidation with ammonia (in view of Larson) to produce a pectin with the same degree of esterification and amidation as instantly claimed, one of ordinary skill in the art at the time the invention was made would expect that the pectin produced by Marr in view of Larson possesses substantially the same properties, including substantially the same ratio of intrinsic viscosity after amidation, intermediate molecular weight after desertification, and Mark-Houwink factor as instantly claimed.

Applicant argues that the combination of references would not have produced a predictable result as Larson clearly teaches that when the same product is treated in

Art Unit: 1781

substantially the same manner it does not necessarily result in the same final product and as one skilled in the art would clearly read Larson as teaching that the only way to achieve a predictable result is with extracted pectin fractions. Applicant's argument is not convincing as it is unclear as to where applicant is citing Larsen; and as the teachings of Larson treat a pectin fraction and the treatment component of Marr is pectin, which comprises a pectin fraction, thus, one of ordinary skill in the art would expect that the treatment of the pectin fractions as taught by Larson would provide for the same effect in the pectin as taught by Marr; in other words, although the final product is not the same, the treatment and effect on the product would have the same effect since the product which is treated comprises the same component.

Applicant argues that the invention provides for surprising and unexpected results, as shown in the specification and the declaration. Applicant's argument is not convincing as 1) the references of record teach of the instantly claimed invention and 2) the comparative tests show a pectin treated by acid de-esterification and not enzymatic or bio-catalyst de-esterification which is instantly claimed and taught by the references of record, thus the evidence does not compare the instantly claimed invention to the closest prior art of record.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Art Unit: 1781

Any inquiry concerning this communication or earlier communications from the examiner should be directed to KELLY BEKKER whose telephone number is (571)272-2739. The examiner can normally be reached on Monday through Friday 8am-4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Keith Hendricks can be reached on (571) 272-1401. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Kelly Bekker/
Examiner
Art Unit 1781